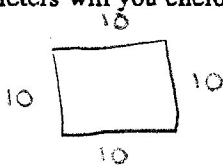


45. You have enough material to build a fence 40 meters long. If you use it all to enclose a square region, how many square meters will you enclose?

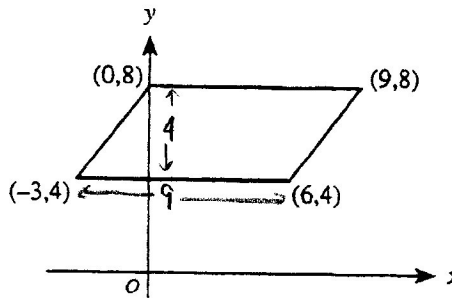
A. 160  
B. 100  
C. 80  
D. 40  
E. 20



$$10^2 = 100$$

43. The parallelogram shown below in the standard (x,y) coordinate plane has vertices as marked. What is the area of the parallelogram, in square coordinate units?

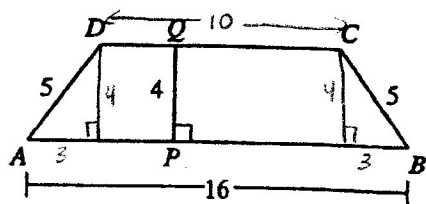
A. 18  
B.  $22\frac{1}{2}$   
C. 28  
D. 36  
E. 45



$$A = bh = 9 \times 4 = 36$$

34. In isosceles trapezoid ABCD shown below,  $\overline{QP}$  is an altitude, and all lengths are given in centimeters. What is the perimeter of trapezoid ABCD, in centimeters?

F. 30  
G. 34  
H. 36  
J. 42  
K. 52



$$A = \left( \frac{a+b}{2} \right) h = \left( \frac{16+10}{2} \right) 4$$

$$= 13 \cdot 4 = 52$$

19. Andre has 2 pairs of dress shoes, 3 pairs of dress trousers, and 2 sport coats, which all go together well. He needs to choose a clothes combination to wear to the school dance. How many different combinations consisting of 1 pair of shoes, 1 pair of trousers, and 1 sport coat can Andre choose?

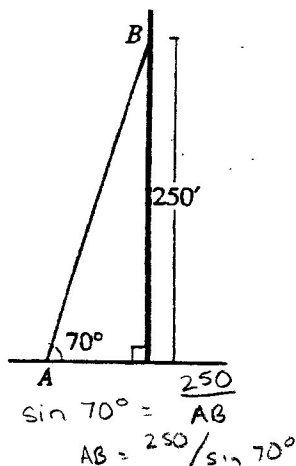
A. 6  
B. 7  
C. 8  
D. 9  
E. 12

$$\frac{2}{s} \times \frac{3}{t} \times \frac{2}{c}$$

$$6 \times 2 = 12$$

58. The radio station WEST is erecting a new transmitting tower that is 280 feet tall. A support wire will be attached to the ground at point A and to the tower 250 feet up at point B, as shown below. The wire must be at least as long as  $\overline{AB}$ . Which of the following expresses the length of  $\overline{AB}$ , in feet?

F.  $250 \cos 70^\circ$   
G.  $250 \sin 70^\circ$   
H.  $250 \tan 70^\circ$   
J.  $\frac{250}{\cos 70^\circ}$   
K.  $\frac{250}{\sin 70^\circ}$



$$\sin 70^\circ = \frac{250}{AB}$$

$$AB = 250 / \sin 70^\circ$$

9. Siblings Peter, Paul, and Mary earned a total of \$200 shoveling snow. If Peter earned 37% of the total and Paul earned \$16, what fraction of the \$200 did Mary earn?

A.  $\frac{1}{3}$

$$\text{Peter } 37\% \times 200 = \$74$$

$$\text{Paul } \$16$$

B.  $\frac{1}{2}$

$$200 - 90 = 110$$

C.  $\frac{11}{20}$

$$\text{Mary's } = \frac{110}{200} = \frac{11}{20}$$

D.  $\frac{131}{200}$

E.  $\frac{147}{200}$